

REMARKS/ARGUMENTS

Re-examination and favorable reconsideration in light of the above amendments and the following comments are respectfully requested.

By the present amendment, a paragraph has been added to page 1 pursuant to the Examiner's request. This new paragraph includes the same information which was on the transmittal letter filed with the case.

Claims 1 - 10 and 13 - 28 are pending in the application. Currently, no claim has been allowed.

By the present amendment, independent claims 1 and 16 have been amended, dependent claims 3 and 4 have been amended, and new claims 29 - 31 have been added to the application.

In the office action mailed August 24, 2004, claims 1 - 6, 9, 10, 13 - 18, and 20 - 28 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,509,270 to Pearce; claims 1 - 7, 9, 10, 13 - 18, and 20 - 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce in view of U.S. Patent No. 5,271,219 to Richardson; claims 1 - 7, 9, 10, 13 - 18 and 20 - 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce in view of U.S. Patent No. 5,941,076 to Sandelis; claims 1 - 4, 8 - 10, 13 - 20, and 24 - 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,497,105 to Stastny in view of U.S. Patent No. 5,253,471 to Richardson or Sandelis; claims 5 - 7 and 21 - 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Stastny in view of Richardson '471 in view of Sandelis and further in view of Pearce; claims 8 and 19 were rejected as being unpatentable over Pearce in view of Richardson '219; claims 1 - 10 and 13 - 15 were rejected under the judicially created doctrine of obviousness type double patenting over

claims 1 - 12 of U.S. Patent No. 6,751,961; and claims 16 - 28 were rejected under the judicially created doctrine of obviousness type double patenting over claims 1 - 12 of the '961 patent in view of any of Pearce, Stastny, or Richardson '471.

The foregoing rejections are traversed by the instant response.

The present invention relates broadly to a bulkhead panel for use in a combustion chamber of a gas turbine engine. The bulkhead panel comprises a first side and a second side, a plurality of panel holes extending from the first side to the second side through which cooling air flows, the first side and the second side being substantially planar from an outer edge to an inner edge, a circumferential rail on the first side dividing the first side into a first cavity region radially inward of the circumferential rail and a second cavity region radially outward of the first cavity region, the first cavity region containing a plurality of panel holes arrayed in a circular configuration and the second cavity region containing a plurality of said panel holes with at least one row of holes being circular and arranged concentric to the circular arrayed holes in the first cavity region, and the second cavity region being an unbroken space defined by an inner rail, an outer rail, two side rails, and the circumferential rail.

Claim 1 as amended is not anticipated by the Pearce et al. Pearce et al. relates to a gas turbine engine combustor heatshield which has a chamber 42 which has an air inlet 44 and outlets 46, 62, and 52. The portion of the Pearce et al. patent being relied upon by the Examiner does not say what the Examiner thinks it says. The portion beginning in column 3, line 7 et seq. does not call for a plurality of chambers being each heatshield segment. Rather, it says that there is a separate

chamber behind each heatshield segment. In order to anticipate claimed subject matter, the reference must show each of the claimed feature. Thus, Pearce et al. fails to show (1) the two cavity regions; (2) the first cavity region having a plurality of holes arranged in a circular configuration along with a second cavity region having a plurality of holes with at least one row of the holes being arranged concentric to the circular configuration; and (3) the second cavity region being an unbroken space defined by an inner rail, an outer rail, two side rails, and the circumferential rail.

With respect to claims 1 - 6, 9, 10, and 13 - 15, these claims are not allowable over Pearce et al. for the same reasons as claim 1 as well as on their own accord. For example, Pearce et al. does not teach or suggest the plurality of circular rows of claim 4, the angled exit nozzles of claim 5, the angled exit nozzle of claim 6, and the sealed chamber construction of claim 10. With respect to claim 10, it should be noted that the so-called central lip in Pearce et al. does not contact the bulkhead support shell. Instead, it contacts the annular seal 34.

Claim 16 is allowable over Pearce et al. because Pearce et al. does not teach or suggest (1) the second cavity region; and/or (2) the circular rows of holes in the first cavity region in combination with a circular row of holes in the second cavity region.

Claims 17 - 18 and 21 - 28 are allowable for the same reasons as claim 16 as well as on their own accord. For example, Pearce et al. does not teach or suggest (1) the liner attached to the inner and outer shells; (2) the annular cavity formed by the inner and outer support shells and the liners; and (3) the inner and outer lips for channeling air exiting the annular

cavity toward a hot surface of the liners. Pearce et al. does not teach or suggest the exit nozzle having the compound angle of claim 21, each of the panel holes having an exit nozzle configured to create a swirling flow of claim 22, and the sealed chamber configuration of claim 26.

With respect to the obviousness rejection of claims 1 - 7, 9, 10, 13 - 18, and 21 - 28 over Pearce et al. in view of Richardson '219, the Richardson '219 patent does not cure all of the aforementioned deficiencies of Pearce et al. For example, while Richardson '219 may teach the use of a circumferential rail, it does not teach the hole configurations set forth in amended claims 1 and 16. In Richardson '219, all of the hole configurations in anything which can be called a second cavity region are linear hole configurations. Further, Richardson '219 does not teach or suggest an unbroken second cavity region which is defined by an inner rail, an outer rail, two side rails, and a circumferential rail. There is no inner and outer rails in Richardson '219. With respect to the proposed combination, there is no reason to provide Pearce et al. with the second cavity region because Pearce et al. lacks any inlet hole for supplying cooling air onto such a cavity region. Pearce et al. has only a single inlet hole 44. Thus, there is no way that Pearce et al. could possibly use multiple chambers having a plurality of holes. Richardson '219 does not cure the Pearce deficiencies with respect to the dependent claims discussed above. For example, Richardson '219 does not teach or suggest the angled exit nozzles for creating a swirling flow, the claimed central lip construction, etc. With respect to the Examiner's argument that Pearce places no restriction on the direction of swirl, while this may be true, Pearce does not teach that the swirl should be clockwise. Silence is not a teaching. One of ordinary skill in

the art could easily choose the swirl to be counterclockwise. The suggestion that one could employ the clockwise direction is nothing more than hindsight "obvious to try" rejection. For these reasons, the obviousness rejection should be withdrawn.

With respect to the obviousness rejection of claims 1 - 7, 9, 10, 13 - 18, and 20 - 28 over the combination of Pearce et al. and Sandelis, here again the secondary reference does not cure the deficiencies of the primary reference. For example, the holes in Sandelis are configured linearly in not in circular rows called for in both claims 1 and 16. Further, Sandelis has absolutely no interest in creating swirling flows. In the so-called second cavity region, all of the cooling outlets are angled towards the combustor walls to be cooled. One would not want to swirl the flow exiting such nozzles. Still further, Sandelis teaches away from the use of a substantially planar configuration for the panel. The Examiner cannot, and should not, cherry pick the reference. If the Examiner is going to use the teachings of the reference, he must use all of the teachings. Of course, there is no reason to combine Pearce et al. and Sandelis. The curved inner and outer lips on Pearce et al. would destroy the purpose of the outlets 31 in Sandelis because they would block the flows to the combustor walls. It is well settled law that it is not proper to combine references when the combination would destroy the reference for its intended purpose. It should also be noted that Sandelis does not teach or suggest a second cavity region which is defined by an inner rail, an outer rail, side rails and a circumferential rail. Applicant's comments on the swirling direction set forth above in connection with the previous obviousness rejection are equally applicable here. For the foregoing reasons, the Examiner is respectfully requested to withdraw the obviousness rejection.

With respect to the obviousness rejection of claims 1 - 4, 8 - 10, 13 - 20, and 24 - 28 over Stastny in view of Richardson or Sandelis, it should be noted that none of these references teach or suggest the claimed first and second regions with the claimed circular configurations. Stastny does not teach or suggest first and second regions in the panel having panel holes. The only holes in Stastny's panel are holes 58 in a single chamber. All of the secondary references, as well as Stastny, teach linear hole configurations. It should also be noted that none of the references teach or suggest forming an unbroken second cavity region bounded by an inner rail, an outer rail, two side rails, and a circumferential rail. To the extent that Stastny shows a second cavity region, it is broken up by ribs 46. Similarly, Richardson '471 (see FIG. 5) shows a second cavity region broken up by ribs 36. While Stastny may have something which may be called a central rib (item 41), it should be noted that this rib rests on a collar 74 and not on the bulkhead support shell. It should also be noted that none of the references teach or suggest the circular hole arrangements of claims 3 and 4, the liner, annular cavity, and inner and outer lip arrangement of claim 17 and the impingement holes of claim 28. While the references may shown impingement holes, they are not configured in the manner set forth in the claims. For these reasons, this obviousness rejection should be withdrawn.

With respect to the rejection of claims 5 - 7 and 21 - 23 on obviousness grounds over Stastny in view of Richardson '471 or Sandelis in view of Pearce et al., this rejection should be withdrawn because Pearce et al. does not cure the aforementioned deficiencies in the other references. Further, providing Stastny with a swirling flow serves no purpose. Even if it were obvious to provide Stastny with a swirling flow, there is nothing in any

reference which would teach or suggest having the swirling flow operate in a clockwise direction. Silence in a reference is not the same as a teaching or suggestion. In fact, there is no reason to provide Stastny with a clockwise swirling flow. Obvious to try is not the standard for obviousness.

With respect to the rejection of claims 8 and 19 on obviousness grounds, these claims are allowable for the same reasons that their parent claims are allowable. Further, the Richardson '219 patent does not cure the defects of the other references. This rejection too should be withdrawn.

With respect to the rejections of claims 1 - 10 and 13 - 28 on obviousness type double patenting grounds, these rejections are now moot in view of the attached terminal disclaimer.

For the foregoing reasons, the instant application is believed to be in condition for allowance. Such allowance is respectfully solicited.

Enclosed herewith is a three month extension of time request and a check in the amount of \$1,020.00 to cover the cost of the extension of time.

Should the Examiner believe an additional amendment is needed to place the case in condition for allowance, he is hereby invited to contact Applicants' attorney at the telephone number listed below.

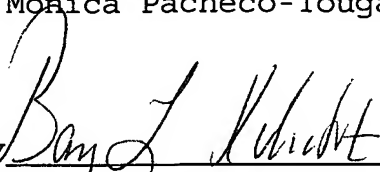
The Director is hereby authorized to charge the fee for the additional claims and the fee for the terminal disclaimer of \$280.00 to Deposit Account No. 21-0279. Should the Director

Appl. No. 10/770,703
Amdt. dated Feb. 24, 2005
Reply to office action of Aug. 24, 2004

determine that an additional fee is due, he is hereby authorized to charge said fee to said Deposit Account.

Respectfully submitted,

Monica Pacheco-Tougas et al.

By 
Barry L. Kelmachter
BACHMAN & LaPOINTE, P.C.
Reg. No. 29,999
Attorney for Applicants

Telephone: (203)777-6628 ext. 112
Telefax: (203)865-0297
Email: docket@bachlap.com

Date: February 24, 2005

I, Nicole Motzer, hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on February 24, 2005.

